Nov. 25, 1930. T. L. TORGERSON 1,782,490

ADJUSTABLE DOOR HINGE

Filed March 21, 1929

Fig. 1

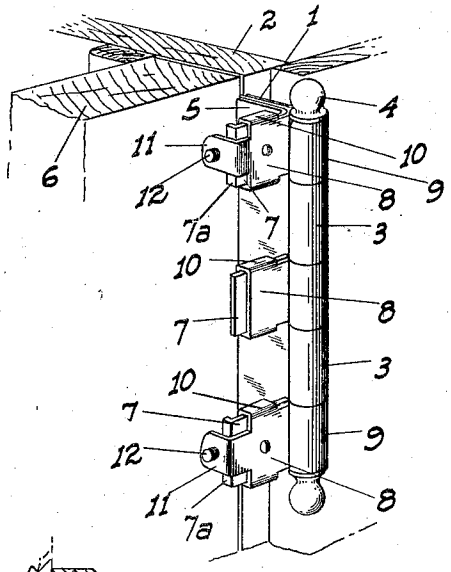


Fig. 2

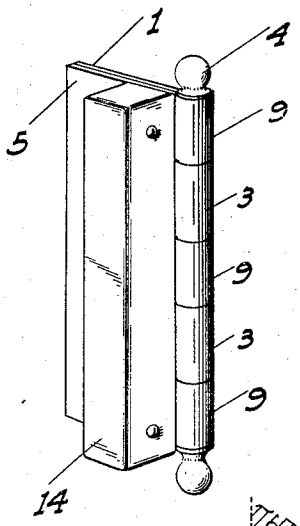


Fig. 3

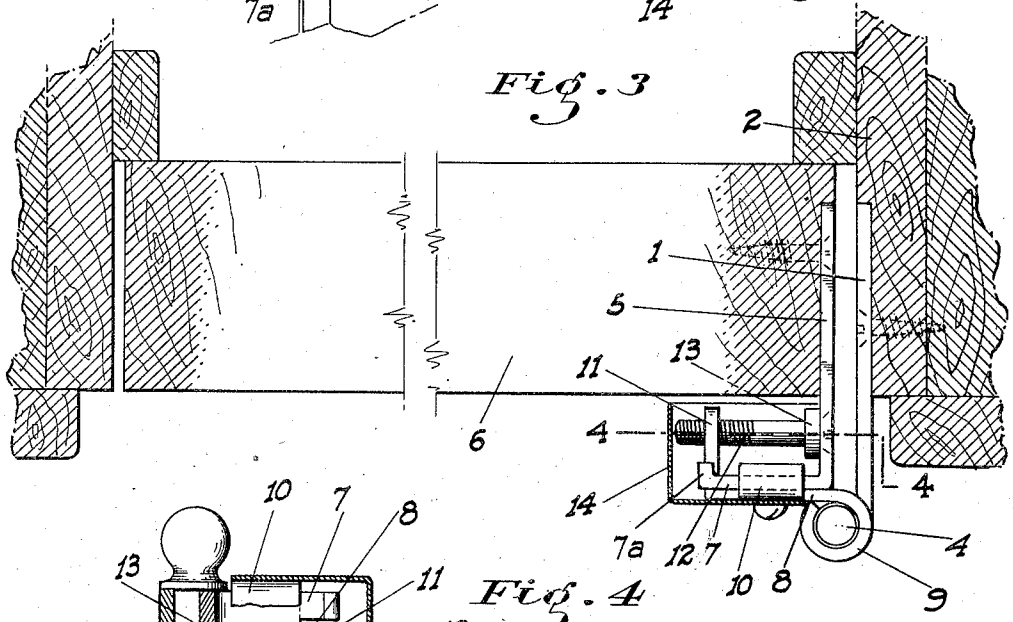
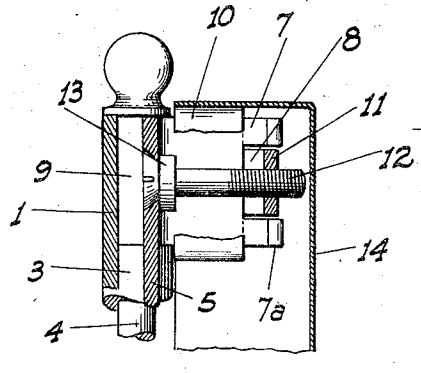


Fig. 4



INVENTOR

T. L. Torgerson

BY

ATTORNEY

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UNITED STATES PATENT OFFICE

THEODORE L. TORGERSON, OF OROVILLE, CALIFORNIA

ADJUSTABLE DOOR HINGE

Application filed March 21, 1929. Serial No. 348,714.

This invention relates to door hinges and particularly to relatively large hinges of the butt type used to support entrance doors of buildings of all kinds and which are exposed to the weather, and consequently have a tendency to shrink and swell with changes in climatic conditions.

Under the present methods of preparing lumber for use it too frequently happens that the lumber is not properly seasoned before being fashioned into doors, and as a consequence the doors when erected in place do not have the permanent proper fit with their casings. In other words in dry weather a door is apt to shrink so as to pull away from the side of its casing opposite to the hinges to such an extent that the door catch will not properly engage the strike plate in the casing, and there is also a chance for a bad draft into the room being had between the door and the casing; while in wet weather the door sometimes swells to such an extent as to jam against the same so as to make it hard to open and close the door.

The principal object of my invention is to provide an adjustable hinge for doors so constructed as to enable the door to be shifted horizontally so as to compensate for swelling and shrinkage, and so as to permit of the extent of such swelling and shrinkage to be divided evenly on both sides of the casing instead of being concentrated only on one side, as is the case with the ordinary hinge.

The adjustable construction of my improved hinge is also such as to enable the householder to easily make the necessary adjustments at any time, with only the aid of an ordinary screw driver and without any mechanical knowledge and skill being necessary.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a perspective elevation of my improved hinge as mounted in connection with a door and its jamb.

Fig. 2 is a perspective elevation of the hinge detached showing the adjustable parts as normally covered.

Fig. 3 is a sectional plan through the door at the top of a hinge.

Fig. 4 is a fragmentary end view of the hinge partly in section substantially on the line 4—4 of Fig. 3.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 denotes one of the plates of the hinge adapted to be secured in the usual position to the door jamb 2 and provided at one end with vertical and spaced knuckles 3 to receive the hinge pin 4. The other hinge plate 5 for attachment to the edge of the door 6 is not directly connected to the hinge pin and terminates at its outer end in a plurality of right angled vertically spaced extensions 7 which are positioned in alternate horizontal planes to the planes of the knuckles 3 and extending away from the plate 1. These extensions abut against other similarly sized plates 8 formed with knuckles 9 engaged by the hinge pin and disposed in alternate relation to the knuckles 3. The plates 8 are formed with yokes 10 engaging the extensions 7 and forming guides and supporting means for said extensions to allow relative horizontal movement between said extensions and plates 8 by preventing such movement from taking place in any other direction.

At their outer ends the top and bottom plates 8 of the hinge have right angled lugs 11 bent toward the door and disposed parallel to the plate 5. Adjustable screws 12 are turnably mounted in the plate 5 between the plane of the door and the pin knuckles and are threaded through the lugs 11. Collars 13 are fixed on the screws under their heads to prevent longitudinal movement of said screws without interfering with their rotation.

It will thus be seen that by turning the screws one way or the other the door may be

moved horizontally to form its jamb, so as to compensate for shrinkage or swelling and divide up the space thus formed between both sides of the door casing. Adjusting one screw more than the other one way or the other also serves to take up any sag of the door within a limited extent, as will be evident.

Should it be desired the features which permit of the adjustment of the door and which project to one side of the door may be covered by a housing 14 so that the exposed portions of the hinge as a whole will present a neat appearance. This housing does not need to be removed when once applied since the adjustments are made by turning the screws 12 at their heads, which face toward the plate 1 and are of course rendered accessible when the door is opened, and the plates are at widely diverging angles to each other.

To limit the distance the plate 5 can be moved toward the plate 1 by adjustment of the screws (and which cannot be determined when such adjustment is being made) the extensions 7 are provided with stops 7ª at their outer ends to engage the yokes 10 when the said plates are as close together as they can be.

Though shown as mounted on the right-hand edge of a door, the hinge can of course be inverted and used equally well on a left-hand door.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined in the appended claim.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

A door hinge including a pair of plates adapted for separate attachment to a door and its casing in adjacent and facing relation to each other, spaced knuckles formed with one plate, other separate knuckles to cooperate with the first named knuckles, a hinge pin through all said knuckles, plates projecting from said separate knuckles, angled extensions on the other plate engaging and supporting said last named plates for sliding movement in a horizontal plane, lugs on the outer ends of certain ones of said last named plates extending in the direction of said other plate and parallel thereto, and horizontal adjustment screws between said lugs and said other plate.

In testimony whereof I affix my signature.

THEODORE L. TORGERSON.